

Zr up to 0.30

optionally, at least one member of the group consisting of:

Cr 0.05 - 0.30

Ti 0.01 - 0.20

V 0.05 - 0.25

Ag 0.05 - 0.40

Cu up to 0.40

other elements up to 0.05 each, 0.15 total

Al balance

and having in an H-condition or in an O-condition a ratio of PS/UTS in the range of 0.4 to 0.9 and having good roll formability.

2. [Amended] A composite aluminium panel according to claim 1, wherein the corrugated aluminium stiffener sheet has a thickness in the range of up to 3.0 mm.

3. [Amended] A composite aluminium panel according to claim 1, wherein the Zn content of the corrugated aluminium stiffener sheet is in the range of 0.4 to 1.2%.

4. [Amended] A composite aluminium panel according to claim 1, wherein the Zn content of the corrugated aluminium stiffener sheet is in the range of 3.0 to 4.5%.

5. A composite aluminium panel, wherein the corrugated aluminium stiffener sheet is made from an aluminium alloy rolled sheet of composition (in weight percent):

Mg 5.0 - 6.0

Mn 0.6 - 12

Zn 0.4 - 1.5

Zr 0.05 - 0.25

Cr up to 0.3

Ti up to 0.2

Fe up to 0.5

Si up to 0.5

Cu up to 0.4

Ag up to 0.4

balance Aluminium and inevitable impurities, and
having in an H-condition or in an O-condition a ratio of PS/UTS in the range of 0.4
to 0.9 and having good roll formability.

6. (Amended) A composite aluminium panel in accordance with claim 1, further comprising a cladding on at least one side of the surface of the corrugated sheet and the cladding is a member of the group consisting of:

- (i) the cladding is of a higher purity aluminium alloy than said rolled sheet;
- (ii) the cladding is of the Aluminium Association AA1000 series;
- (iii) the cladding is of the Aluminium Association AA6000 series;
- (iv) the cladding is of the Aluminium Association AA4000 series; and
- (v) the cladding is of the Aluminium Association AA7000 series.

7. (Amended) A composite aluminium panel in accordance with claim 1, wherein the two parallel plates and/or sheets have been secured to the corrugated aluminium stiffener sheet by means of welding.

8. (Amended) A composite aluminium panel in accordance with claim 1, wherein at least one of the two parallel plates and/or sheets are within the same compositional window as the corrugated aluminium stiffener.

9. (Amended) A composite aluminium panel in accordance with claim 1, wherein a cladding of the AA4000-series aluminium alloy is present on at least one side of the surface of the corrugated aluminium stiffener sheet, and wherein at least one of the two parallel plates and/or sheets has been secured to the corrugated aluminium stiffener sheet by means of brazing.

10. (Amended) A method of use of an aluminium rolled product of composition (in weight percent):

Mg 1.5 - 6.0

Mn 0.3 - 1.4

Zn 0.4 - 5.0

Fe up to 0.5

Si up to 0.5

Zr up to 0.30

optionally, one or more of

Cr 0.05 - 0.30

Ti 0.01 - 0.20

V 0.05 - 0.25

Ag 0.05 - 0.40

Cu up to 0.40

other elements up to 0.05 each, 0.15 total

Al balance

comprising a step selected from the group consisting of:

forming the aluminium rolled product into a corrugated aluminium stiffener sheet;

and

attaching the aluminium rolled product as a parallel sheet or plate to a corrugated sheet of an aluminium alloy which is of the same or different composition as the parallel sheet and/or plate in a composite aluminium panel.

11. (Amended) A method of use of an aluminium rolled product of composition (in weight percent):

Mg 5.0 - 6.0

Mn 0.6 - 1.2

Zn 0.4 - 1.5

Zr 0.05 - 0.25

Cr up to 0.3

Ti up to 0.2

Fe up to 0.5

Si up to 0.5

BEST AVAILABLE COPY

Cu up to 0.4

Ag up to 0.4

BEST AVAILABLE COPY

balance Aluminium and inevitable impurities

comprising a step selected from the group consisting of:

forming the aluminium rolled product into a corrugated aluminium stiffener sheet;

and

attaching the aluminium rolled product as a parallel sheet or plate to a corrugated sheet of an aluminium alloy which is of the same or different composition as the parallel sheet and/or plate in a composite aluminium panel.

12. [Amended] A welded structure comprising at least one composite aluminium panel according to claim 1.

13. [Amended] A composite aluminium panel according to claim 1 for ship building.

14. [Amended] A composite aluminium panel according to claim 1 for marine offshore construction.

Please add new Claims as follows.

15. A composite aluminium panel according to claim 1, wherein the corrugated aluminium stiffener sheet has a thickness in the range of 0.2 to 1.0 mm.

16. A composite aluminium panel according to claim 5, wherein Zn is 0.4 - 0.9%.

17. A composite aluminium panel in accordance with claim 7, wherein the two parallel plates and/or sheets have been secured to the corrugated aluminium stiffener sheet by means of laser welding.

- According to classical structure comparison

A3

19. A welded structure comprising at least one composite aluminium panel according to claim 5.

THE UNIVERSITY OF CHICAGO PRESS